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Investing in cow-welfare – a cost-effective initiative?

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The aim of the project was to identify the most cost-effective investments in improving welfare for Danish dairy herds by identifying the most serious welfare problems and their causes, suggesting solutions and calculating the economic consequences of investing in the solutions.

The welfare of dairy cows was assessed in 60 Danish dairy herds using the Welfare Quality ® assessment protocol for cattle. These data were supplemented with herd data on production, housing, management and diseases and analysed to identify the most important welfare problems and conditions associated with these problems. The most important welfare problems identified were poor comfort when resting, injuries, lameness and zero grazing. Several biologically plausible associations were found, e.g. time to lie down was associated with bedding quality, and lameness was associated with bedding quality and farmers' awareness of lameness. Seven herds identified with substantial important problems were visited.

At the farm visits, the risk factors behind the welfare problems related to the stable and equipment were identified as: Cubicles that were too small, hard mattresses, and various problems related to the floor, scrapers, slats and floor hygiene. Solutions suggested by a building advisor, the veterinary practitioner and the farmer included extension of cubicles, placing soft mattresses or sand in cubicles, and improving floor quality and hygiene.

The feasibility for providing grazing was also discussed. The costs of implementing the solutions were estimated by the building advisor. By using the herd's own data with the SimHerd model, welfare improvements and their expected economic effects were simulated. With a 10-year payback period and a 4% interest rate, all investments were highly profitable as long as milk yield increased by a minimum of 1.0 kg/cow/day and lameness was reduced by 10-20%. Grazing was found to be non-profitable because it was associated with high costs and milk yield losses.

Short CV:
Anne is senior advisor at Aarhus University, Dept. of Animal Science, and research unit Epidemiology and management.

She has a master in biology and a PhD in Animal Health Economy and during the last 20 years she has been working with the effects of management and housing on the health, welfare and production of farm animals. The research is, in addition to scientific publications, also being used in decision support for farmers, advisors and the Danish authorities.